**About the marine pest biosecurity system**

**Summary**

Whilst a significant amount of work has been done to develop the National System for the Prevention and Management of Marine Pest Incursions since 1998, there are still considerable areas requiring immediate development. Ballast water is still not nationally regulated and biofouling regulation is inconsistent across the nation. The Natural Resources Management Ministerial Council (NRMMC) decision to perform marine pest monitoring biannually in the 18 National Monitoring Network (NMN) locations in 2006 has not been upheld by the eastern Australian jurisdictions. No national emergency detection system for marine pests in the NMN exists as by the time survey results could be carried out according to the National Monitoring Strategy (NMS) (2 years), pests could already be established without the possibility to mount an eradication attempt.

Whilst new technologies and approaches are being developed to mitigate this issue it can only be said that currently there are significant gaps in the Marine Pest Biosecurity System. This especially concerns the working arrangements of the Biosecurity Bill, International Convention for the Control and Management of Ships Ballast Water and Sediments, the Biofouling RIS and marine pest eradication, control and asset protection operations if they are to be implemented in the near future.

The inconsistent approach of different jurisdictions causes great hardship for the maritime industry. Therefore biosecurity legislation must be synchronized across Australia to ensure consistency, it is unreasonable for a Master of an international vessel calling in a number of States to be au fait with the variances in regulations and reporting requirements for each port. Shipping is international and Australia must follow international conventions. Duplicate and overlapping State and Federal legislation which adds costs and dissuades commercial shipping is detrimental to Australia and must be avoided.

The following reply statements concern solutions to these issues and more.

1. What are the key issues for your business / organisation that you would like to see addressed in this review?

* Assessment of consistency between jurisdictions for regulation, compliance and reporting
* A review to show the appropriation of compliance activities and funding versus risks posed by marine sectors to assess if some have been unfairly targeted and some not addressed
* An assessment of CCIMPE reports versus response actions taken, results of those responses, who paid for them and success of those operations
* Assessment of what actual levels of marine pest introduction, eradication and asset control are evident now, since the National System was enacted versus when the port baseline surveys were done (over a decade ago) to test effectiveness
* Potential impact on maritime from changes to ballast water and biofouling legislation implementation
* Commonwealth National System project and MPSC paper transparency for industry continuing
* High compliance costs for reporting and multimillion dollar penalties for biofouling offences being applied in the absence of reliable data and due process. E.g. A vessel can follow all reasonable and current government approved processes and antifouling treatments applied and have an inspection performed to standard overseas to be cleared for importation but then enter Australian waters and follow up inspections 6-12 months later can show marine pests attached to hulls which were unable to be picked up. The vessel operator has done everything in its power to mitigate the risks but can still be penalised by government by either being sent out of Australian waters, prosecuted or being given expensive compliance orders. This can still be done without assessment of what species data exists for the area and risk status of the actual pest (noting that this is under development)

2. How do current marine pest biosecurity arrangements affect your organisation, business or recreational activities?

* Increased responsibility to report, clean, antifoul, off-hire time, cover administration duties for meetings equals significant costs to industry
* Stakeholder engagement administration costs to attend meetings and provide industry positions for government
* Increases in costs are passed on to clients of vessel operators and consumers of shipping services
* Biosecurity emphatic projects have considerable costs. Multi-million dollar compliance penalties possible in some cases
* Expensive monitoring and compliance duties
* Ship’s Master, crew and agent responsibilities to manage and report.

3. How effective are the current arrangements in preventing marine pests arriving and establishing in Australia?

This question could not be reliably answered as :

* (Establishing): Monitoring across Australia has not been applied across the Eastern half of Australia since the Port Baseline Studies (Over a decade ago). Very effective for half of Australia but unknown for the eastern seaboard due to lack of monitoring by those jurisdictions.
* There has been only a few new marine pests established in Australia in the last 9 years (Asia Paddle Crab *Charybdis japonica* Swan River WA, Asian Greenlip Mussel *Perna viridis* Skardon RiverCairns (unconfirmed) and the Red Menace *Grateloupia turuturu* in Tasmania).
* (Arriving) : Australia is geographically isolated
* Our major trade partners are changing from Japan to China and India.
* The highest risk sector for marine pest introduction, recreational yachts receive a relatively insignificant number of biofouling inspections and only in a few jurisdictions so we cannot make assumptions as to effectiveness.

4. How effective are the current arrangements for the detection, eradication and containment of invasive marine pests?

* Detection: Relatively ineffective. Whilst some citizen science programs exist, there is relatively no national emergency monitoring system to alert the introduction of new marine pests. The National Monitoring Network has only monitored 6 out of the 18 high risk locations and they are only due for monitoring every 2 years which is too long to be a reliable detection tool.
* Eradication: Relatively ineffective. Of those new species introductions that have taken place mentioned above, and domestic translocations for marine pest species already in Australia, eradication is generally abandoned as a technique and national funding under the NEBRA for emergencies has not been enacted for marine sectors.
* Containment: The major funding schemes don’t cover marine pests (e.g. Caring for Our Country). The CRC (Cooperative Research Council) for invasive species covered every aspect group of pests including camels, rabbits and carp but did not cover marine pests.

5. Does your organisation, business or activities have any difficulty implementing the current marine pest biosecurity arrangements? If ‘Yes’ please briefly explain what these difficulties are and how they impact you activities and / or industry.

* Yes. Meeting biofouling compliance expectations. Infection control is difficult such that preliminary ship surveys may not to detect all marine pests. Also there are no large vessel slipping facilities in Australia so the risks are high and the mitigation techniques available locally are non-existent.

6. Is the marine pest biosecurity regulatory approach (through legislation, nationally agreed standards, guidelines and protocols) consistent across Australia and aligned to relevant international standards?

* Not consistent. Large differences in regulatory and compliance activities occur between the states. International standards in New Zealand the US and approx. 40 other countries are ahead of Australia as they have adopted the IMO convention.
* The shipping industry is concerned that currently differences exist in marine biosecurity regulation, policy and procedures between jurisdictions around the country. For example, the Aquatic Resources Management Bill in Western Australia; Invasive Species Management Bill and the Waste Management Policy (Ships’ Ballast Water) and the Environment Protection (Ships’ Ballast Water) Regulations 2006 in Victoria; Fisheries Management (Aquaculture) Amendment (Movement of Oysters) Regulation 2013 in NSW and the Biosecurity Act 2014 in Queensland all contain substantially different requirements. These differences complicate effective and efficient marine biosecurity management, particularly in association with commercial shipping activities.
* There is considerable work being done at the International Maritime Organization to implement that Ballast Water Management Convention 2004, which will place a requirement for shipowners to prove that their vessels have a system in place for treating ballast water. A ballast water treatment system can cost from half a million to four million dollars in addition to ancillary costs, including developing a ballast water management plan, dry docking and installation. Forty one IMO member states have now ratified the Ballast Water Convention, which brings the total ratifications to 32.01% of the world’s fleet. Turkey, Italy and Belgium may ratify by the end of the year, which will bring the total beyond the required 35%. The Convention is thus expected to come into force at the end of 2015 and thus provide an adequate international framework to protect Australia marine environment from invasive species through ballast water.
* The International Maritime Organization (IMO) also recently adopted Guidelines For The Control And Management Of Ships Bio-Fouling to Minimise the Transfer of Invasive Aquatic Species that encourage ship owners and operators to implement biofouling management practices. These guidelines include the use of effective anti-fouling systems and routine in-water cleaning with appropriate capture of waste to reduce the development of biofouling.
* The Department of Agriculture is currently reviewing the National Biofouling Management Guidelines, to ensure the documents are consistent with the Antifouling and In-water Cleaning Guidelines and the International Maritime Organization’s Guidelines for the Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species (IMO Biofouling Management Guidelines).

7. Are there cost effective compliance and enforcement arrangements for industry, governments and the community?

* Unsure. Co-management should be progressed as an option for good industry performers to reduce costs. Risk based models should be promoted rather zero risk models.

**About governance and infrastructure**

8. How effective is the National System for the Prevention and Management of Marine Pest Incursions as an overarching framework for Australia’s marine pest biosecurity arrangements?

* Very effective for voluntary arrangements, as a communication tool, for the NIMPIS Database and portal. A few exceptions around funding and monitoring.

9. How effectively has the Australian Government coordinated the development and implementation of harmonised, national marine pest biosecurity arrangements?

* If the Beale review was upheld, unilateral funding agreement sorted out for all stakeholders, monitoring and an early warning system was sorted it would be comprehensive. The National System is a good tool for communications, general information and as a portal. However, the process was started in 1998 and there is still no uniform ballast water system and no uniform biofouling system. Jurisdictions are progressing individual arrangements but industry must work across all of these arrangements and this causes difficulties for industry to comply.

10. How effectively does the Australian Government engage industry stakeholders and other environmental partners in the development and implementation of national marine pest biosecurity measures?

* Relatively well compared to other sectors except national NGO environment stakeholders.
* The Marine Pest Sectorial Committee Stakeholder Consultation has been effective engaging with industry Stakeholders.

11. How effective is the Australian Government in coordinating a response to marine pest incursions?

* Very good. The CCIMPE process and communications group at the Department of Agriculture works well for coordinating a response.

12. How could the governance and infrastructure arrangements for marine pest biosecurity be changed to achieve better outcomes for marine pest biosecurity?

* Only the larger sectors are regularly targeted however their risks have been relatively mitigated. The other sectors need attention especially biofouling on high risk international yachts.
* An assessment of Commonwealth marine pest funding agencies towards which ones are available for research and development projects was started by MPSC but has not progressed. This would show a huge disparity between where Commonwealth funding is spent. It is spent mainly on terrestrial projects for livestock and agriculture with relatively small amounts on marine projects. However marine biosecurity increasingly affects trade and logistics so more emphasis on this is imperative to the future of Australia’s economy. Based on the findings of this study a better funding split between funding agencies could be negotiated.
* The Marine Pest interactive map on [www.marinepests.gov.au](http://www.marinepests.gov.au) is not very useful as it lacks data and information. It could also hyperlink the present species directly to NIMPIS information without much effort.
* National Citizen Science programs to train the public in parataxonomy and as an effective detection system should be developed based on existing models in South Australia (Feral or In Peril system) and elsewhere.
* Governance could be improved if the department were able to increase personnel continuity.

**About prevention, eradication, containment and on-going management**

13. How effective and efficient are the current national arrangements at minimising the risks posed by ballast water?

* Highly effective for international ballast water as the level is currently 100% of ship visitors must exchange ballast water. This would be more efficient though if low risk international journeys were exempt as it costs a considerable amount of money to exchange ballast.
* Ineffective for domestic journeys as no national system is currently in place and the Victorian system requires prior reporting which out of alignment with the International Convention for the Control and Management of Ship’s Ballast Water and Sediments. It is also therefore inefficient

14. How do the current national arrangements for transfer of ballast water between domestic ports affect your activities and/or business?

* There are no current national arrangements for domestic port journeys so this question is irrelevant. Movements into Victoria require increased administration duties for ship staff and ballast water compliance inspections.

15. How effective and efficient are the current national arrangements at minimising the risks posed by biofouling?

* They could be assumed to be ineffective and inefficient but we don’t actually know what the impacts are as the monitoring has not been done down the east coast. However, some assertions can be raised. Firstly there is relatively no compliance activities for domestic vessel translocations and international vessel importation compliance surveys are rarely performed except for in the Northern Territory, Western Australia and South Australia. Being inconsistent provides confusing and irregular impacts on industry
* Several marine pests have been translocated around Australia through biofouling in the last decade e.g. Undaria to Apollo bay.
* They are not national. The inconsistency of jurisdictional approaches to biofouling causes great difficulty to the maritime industry.

16. How effective and efficient are the current national arrangements at minimising the risks posed by the aquarium trade and other pathways for the introduction of marine pests?

* Not applicable to shipping industry

17. How effective are the current national arrangements for determining and actioning the appropriate national response to a marine pest incursion?

* Determining the appropriate actions for a national response would appear to be effective however actually actioning one has proven to be unlikely.

18. How effective are the current national arrangements for containing and managing established marine pests in Australia?

* The current national arrangements for containing and managing established marine pests in Australia are only pursued on an ad hoc basis by jurisdictions. They have not been tested for containing and managing established marine pests in Australia.

19. Which initiatives have delivered the best improvement to addressing marine pest risks in your sector?

* Communications of the National Biofouling Guidelines to maritime stakeholders, Stakeholder run biofouling compliance activities (independent of government), adherence to international conventions when operating vessels.

**About supporting arrangements:**
monitoring, communications, research and development, evaluation and review

20. If your organisation is currently undertaking monitoring for marine pests, what are your reasons for doing so and how do you use the information you collect?

* Peak industry bodies do not undertake national monitoring for marine pests however individual stakeholders perform their own marine pest surveys in their businesses to mitigate environmental, social and economic risks.
* The introduction of invasive marine species into new environments via ships either by ballast water or attached to hulls and other vectors has been identified as one of the four greatest threats to the world’s oceans and to biodiversity globally. <http://globallast.imo.org/>
* The guidelines for the development of Ballast Water Management Plans recommend the volume of sediment in a ballast tank is monitored on a regular basis and be removed in a timely basis and/or as found necessary. <http://globallast.imo.org/2012/Individual%20Guidelines%20for%20reference/G4.pdf>

21.        How effective has the implementation of the National Monitoring Strategy been across Australia?

* The National Monitoring Strategy (NMS) has been highly effective in those jurisdictions which have implemented it but only for establishing current marine pest levels for reporting purposes. It has also only been applied to SA, NT and WA.

22.        What impact has the implementation of the National Monitoring Strategy had on your business or organisation and how can this be improved?

* The NMS has not had a significant impact on the shipping industry. It could be improved by pursuing the mandatory monitoring in the 18 NMN locations which was the decision of the NRMMC to do so every 2 years back in 2006. However, it would be a more efficient and effective if this requirement was made mandatory for every 5 years (by traditional monitoring techniques) but every 6 months using inexpensive plankton tows and real time qPCR DNA identification and reporting techniques.
* If the proposed ballast water and biofouling protocols are legislated then not only all National Monitoring Network locations not monitored will be classed as High Risk, all of Australia’s 103 ports not monitored will be classed as High Risk locations and ballast water management will be a requirement of the voyage.

23.        Do Australia’s national arrangements provide access to relevant marine pest biosecurity information and intelligence sources to improve decision making at the regional, state and national levels?

* Yes but not nationally. NIMPIS is an excellent resource but needs updating, the rapid response tool manuals require updating but are not widely known about and vessel translocation data held by Lloyds is not readily accessible. Determining vector transport levels is difficult to ascertain

24.        How could engagement and communication with your organisation or sector be improved to deliver positive outcomes for marine pest biosecurity?

* Peak Bodies seeks that clear communication channels are available with regards to marine pest biosecurity to MPSC, the Aquatic Pest and Disease Policy and Marine Pest Biofouling and Ballast Water Policy Unit. MPSC representative phone numbers are readily available however a current position list diagram for both of the Department of Agriculture divisions listed above could be emailed to the peak bodies with phone numbers to reduce ineffective communication.

25.        Do the National System and current national marine pest biosecurity arrangements provide an effective platform to continuously improve biosecurity outcomes?

* Only if the Marine Pest Strategy, National Monitoring Network, Australian Priority Marine Pests List, funding agencies for marine pest research and development, biofouling compliance across all industries and international convention for the control and management of ballast water and sediments are worked through and adopted consistently nationally.
* Also only if Governments provide an appropriate levels of funding.

26.        How effective and coordinated is the current national approach to research and development on invasive marine species at improving the national marine pest biosecurity system?

* The Australian Priorities for Marine Pest Research and Development document has been finalised but there is currently no implementation strategy to get the projects started as the funding issues for the marine pest sector have not been determined. Terrestrial research and development for pests and diseases receives funding from Caring For Our Country grants scheme amongst many others however marine pest funding has no obvious research and development fund for researchers to access.